

A THIRD SUBSPECIES IN THE ARTEMISIA TRIDENTATA COMPLEX*

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A recent monograph of the Section Tridentatae of *Artemisia* recognized two subspecies of *Artemisia tridentata* (Beetle, 1960). Need for the naming of a third subspecies in the *A. tridentata* complex is now recognized. This subspecies is intermediate in ecology, morphology, and distribution between *A. tridentata* subsp. *vaseyana* and *A. tridentata* subsp. *tridentata*. In some field situations all may grow together. Credit must be given to the techniques of thin-layer chromatography for final separation of these closely related types.

Young (1965) found this undescribed subspecies to have the "widest distribution of any occurring in Sublette County, Wyoming." He says it is "a dwarf shrub with small leaves, often suggestive of *A. nova*, with flower and fruit characters similar to representatives of *A. tridentata* subsp. *tridentata*. The chromatographic data show that it is more closely related to *A. tridentata* subsp. *tridentata* than to *A. nova*. The most distinguishable feature of the chromatogram is the presence of a heavy absorption cone extending from R_f -.12 to R_f -.30. In the field this newly recognized subspecies is found associated with *A. tridentata* subsp. *tridentata* but always occupying the poor sites (e.g. shallow soils of hilltops and flats).

A. tridentata subsp. (**wyomingensis**) subsp. nov.

Subspecies inter *A. tridentata* subsp. *tridentata* et *A. tridentata* subsp. *vaseyana* intermedia; arbuscula, usque ad 1 m. longa; numquam propagata ut *A. tridentata* subsp. *vaseyana*; folia angustata cuneata, tridentata, 1 - 2 cm. longa; panicula angusta; floreres 5 - 8.

"Type: Wyoming, Sublette County, North of Pinedale, and ½ mile North of Daniel Junction, growing on Pleistocene gravels, and forming a sagebrush-thickspike-wheatgrass community, collected July 20, 1964 by Alvin L. Young No. 105, and deposited in the Rocky Mountain Herbarium.

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This collection was chosen as the type because it was itself identified through thin-layer chromatography and because it is representative of the subspecies.

The particular subspecific epithet for it is given because the major portion of the distribution of the plant is within the state of Wyoming and because the research leading to its recognition was carried out there.

Recognition of this third subspecies in the *A. tridentata* complex will help to sharpen the management picture since the sites occupied by the three subspecies are somewhat different, and the increase in grass following their control by chemicals is, therefore, different.

ARTEMISIA TRIDENTATA

subspecies <i>tridentata</i> basin big sagebrush	subspecies <i>wyomingensis</i> Wyoming big sagebrush	subspecies <i>vaseyana</i> mountain big sagebrush
the common big sagebrush at 5,000 ft. or below	the commonest big sagebrush in Montana and Wyoming and n. Colorado at 5,000 to 7,000 feet	the common big sagebrush at 7,000 feet and above
no tendency to layer	no tendency to layer	strong tendency to layer
dry, deep-soil sites	dry, shallow-soil sites	deep-soil snowfall areas of mountain slopes
heads few-flowered	heads intermediate	heads many-flowered
heads paniculate	heads intermediate	heads spikate
leaves narrowly lanceolate	leaves narrowly cuneate	leaves broadly cuneate

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